



Biosecurity Recommendations on U.S. Sheep Operations

EXAMPLE

Information Brief

March 2022

INTRODUCTION

Animal and herd identification are important for all species of livestock, including goats. Goat producers use animal ID for many reasons including record keeping on genetics, productivity, treatments, sales, and purchases. Additionally, identifying individual goats and herds of goats is critical for disease tracing in the event of a contagious disease, and necessary for the success of the USDA National Scrapie Eradication Program (NSEP;

<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/sheep-and-goat-health/national-scrapie-eradication-program>). The Code of Federal Regulations, Title 9, Parts 54 and 79 mandate the official individual identification of goats over 18 months of age and goats of any age not restricted to slaughter channels, that change ownership or enter interstate commerce, with some exceptions.

Animal disease traceability, or knowing where diseased and at-risk animals are, and where they have been, is crucial to ensuring a rapid and accurate response when animal disease events take place. This can only be accomplished if the animals are properly identified and the individual and the herd, flock, or group identification are recorded. Identifying animals from birth through slaughter allows for quick tracing of sick and exposed animals. Although animal disease traceability does not prevent disease, an efficient and accurate tracing system reduces the number of animals and response time involved in a disease investigation, which reduces the economic impact on owners and affected communities.

NAHMS GOAT 2019 STUDY

U.S. Department of Agriculture’s National Animal Health Monitoring System (NAHMS), in collaboration with the National Agricultural Statistics Service conducted its second national study of the U.S. goat industry in 2019. The NAHMS Goat 2019 study gathered information on goat health and management practices on U.S. goat operations. The study was conducted in 24 of the nation’s major goat-producing states, on selected operations with 5 or more adult goats (figure 1).

As part of the effort to collect information on goat management, producers were asked about methods used for individual goat (each goat has its own unique identification) and operation level (every goat on the operation has the same identification) identification (ID). Producers were provided a list from which to choose identification types for uniquely identifying their herds or individual goats. They could also report other unlisted types of ID. More than one form of ID could have been used on the same goat. For example, if an electronic ear tag was used, both the ear tag and electronic ID were reported. Similarly, if a collar and tattoo were used, both were reported.

KEY TERMS

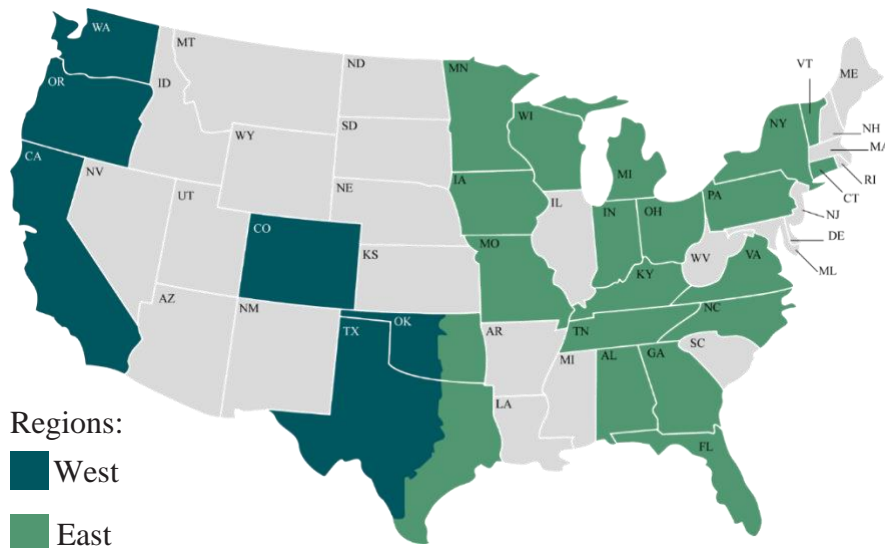


- **Dairy** refers to operations that primarily produce milk.
- **Meat** refers to operations that primarily raised goats marketed for consumption.
- **Other** refers to operations that primarily raised goats for other reasons.

Operation Size (by Head of Goats)



Figure 1. States/regions that participated in the NAHMS Goat 2019 study



**Texas and Oklahoma were divided on a line corresponding to north-south Interstate 35. The western halves of the States were included in the West region, and the eastern halves were included in the East region.*

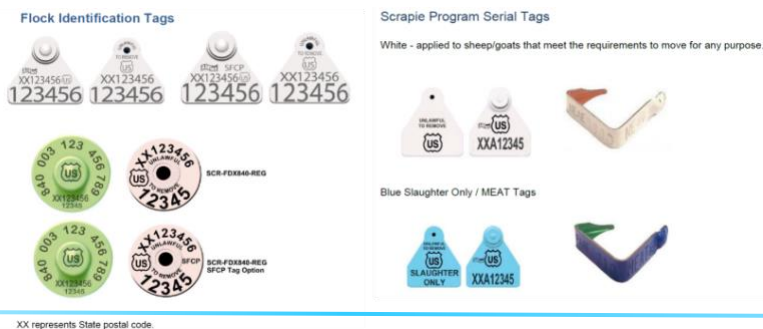
WHAT IS INDIVIDUAL ID AND HERD ID?

Individual-animal ID refers to a unique ID for each animal and herd ID designates the animals as belonging to a particular operation. Ear tags, electronic IDs, tattoos, ear notches, and collar/leg bands can be used for both individual and herd level ID, whereas brands tend to be used for herd level ID. Individual-animal and herd ID are both important for traceback purposes and proper record keeping. If, for example, an animal is suspected of scrapie at slaughter, an official scrapie tag and sufficient record keeping allow animal health officials to trace that animal back to its herd of origin, with the goal of controlling, stopping, and/or eradicating the spread/presence of disease.

WHAT IS OFFICIAL AND UNOFFICIAL ID?

Unofficial IDs are assigned and managed by the operation, while official IDs are assigned and recorded in a database managed by animal health authorities. Individual official IDs are vital to the success of the USDA National Scrapie Eradication Program and are generally required for any breeding goat (i.e. any goat not going into slaughter channels) that changes ownership or enters interstate commerce and for any slaughter goat 18 months of age or over. There are certain exceptions to these requirements; please refer to the regulations and educational materials on the [APHIS website](https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/sheep-and-goat-health/scrapie-tags/id) (<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/sheep-and-goat-health/scrapie-tags/id>) for more information. Producers should also note that States may have additional requirements. Types of official ID include National Scrapie Eradication Program ear tags (including visual only plastic or metal tags and RFID tags), approved electronic implants, official flock identification tattoos, and approved breed registry tattoos. Official tags can be identified by the U.S. shield printed on each tag. Unofficial IDs can be used to manage goats for non-regulatory purposes. Unofficial IDs include tags, tattoos, ear notches, leg bands, freeze brands, neck chains, collars, photos, goat names, and microchips (figure 2).

Figure 2. Examples of official IDs used on sheep and goats



WHAT ID TYPES ARE AVAILABLE?



Tattoo: Most often animals are tattooed on the ear or in the tail webbing. Tattoos may be registered with a breed association and can be used as individual or herd ID. Only approved registry tattoos in combination with the registry certificate and official flock ID tattoos can be used as official ID.



Collar/leg band: Collars/leg bands can be made of a variety of materials and colors and can be used as individual or herd ID. Collar/leg bands can be difficult to read in large groups of animals.



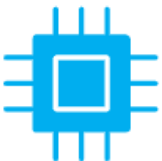
Ear notch: Small piece(s) of an animal's ear are removed. Operations may incorporate a number system to the ear notches for identification purposes. Ear notches can be used as individual-animal or herd ID.



Hot-iron/freeze brand: Any marking created by a hot iron or by freezing. Brand location might vary from operation to operation. Brands can be used for herd ID or to give each animal a unique ID number. Branding is not common on goat operations.



Paint brand: Paint branding is a temporary form of ID and is often used with permanent forms of ID. Paint branding is an effective temporary ID method when treating goats or preparing them for sale.



Electronic ID/microchip (EID): EID includes tags, EID collars, and implanted microchips. Official radiofrequency identification (RFID) eartags with the US shield and official implants are available for purchase from manufacturers; see the [APHIS website](#) for more information about ID approved for official use in sheep and goats. Electronic microchips are implanted beneath the skin, near the base of the tail or near the base of the ear. Animals officially identified with implants must also be tattooed with an "E" (ear) or "ET" (tail fold) to indicate the location of the implant; the number must be recorded on the registration papers, or if the animal is unregistered, the flock ID must be tattooed in the ear, tail fold, or flank of the animal. Electronic ID can store various information about the goat and the herd; however, they require additional equipment to read and sometimes cannot be read from a distance due to a relatively low radio frequency strength.



Official metal scrapie-program ear tag: These tags can be used as both individual and herd ID (if printed with a herd ID number) and have the U.S. shield. Metal tags are less commonly used than the plastic scrapie tags due to concerns with infections when used in goats.



Official plastic scrapie-program ear tag: These tags are probably the most commonly used type of official USDA tag. They can be used as both individual and herd ID (if printed with a herd ID number) and have the U.S. shield. In the past, USDA provided tags at no cost to all producers and were colored white or orange. During the time of this study, the National Scrapie Eradication Program transitioned to only providing a limited number of free plastic tags. These no-cost tags are still available to producers who are new to the Program. While operators must still obtain a Flock ID from the State office responsible for animal ID (sometimes this is USDA and sometimes it is a State entity), they should now order official ID, available in a wide array of colors and styles, directly from manufacturers themselves.



Other official ear tag with a U.S. shield: These tags are approved for use in other species, such as cattle and swine, and have the U.S. shield. These tags may not be used in place of official sheep and goat ID for official purposes, including interstate movement and presenting goats at shows/events.



Other plastic ear tag: Any unofficial tag without the U.S. shield. Ear tags can be used as individual or herd level ID and take the form of letters, numbers, and colors. These tags are usually visible from front and back and are inexpensive and easy to read.

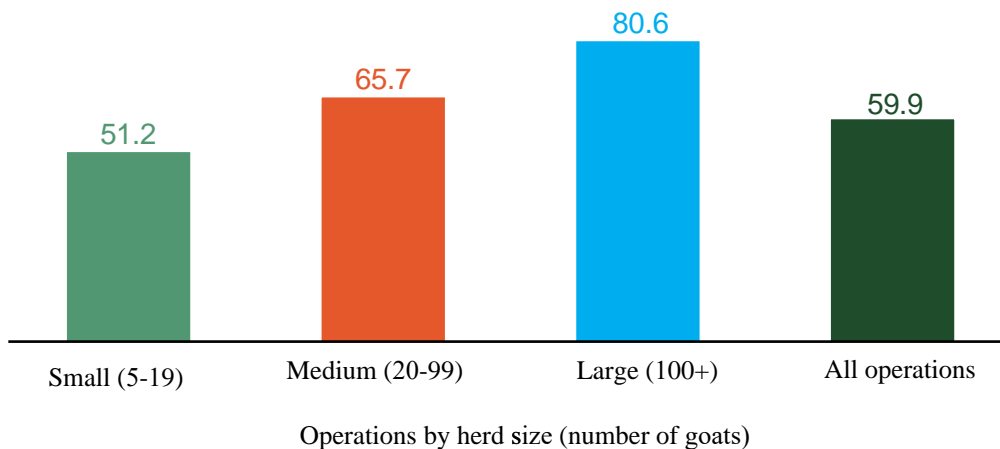


Other ID: Any ID method used not mentioned previously, e.g., photos, names, or nose printing.

WHAT ID TYPES ARE USED?

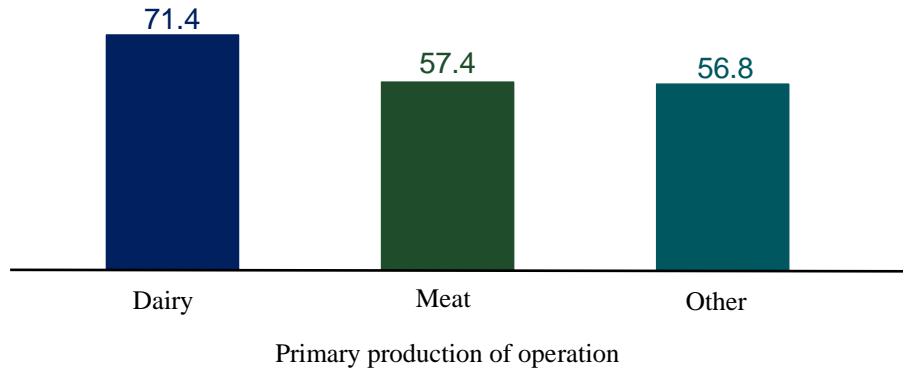
Overall, 59.9 percent of operations had any goats with a form of ID (individual and/or herd). The percentage of operations that had any goats with ID increased as herd size increased: 51.2 percent of small, 65.7 percent of medium, and 80.6 percent of large operations had any goats with a form of ID (figure 3).

Figure 3. Percent of operations that had any goats with ID (individual and/or herd), by herd size



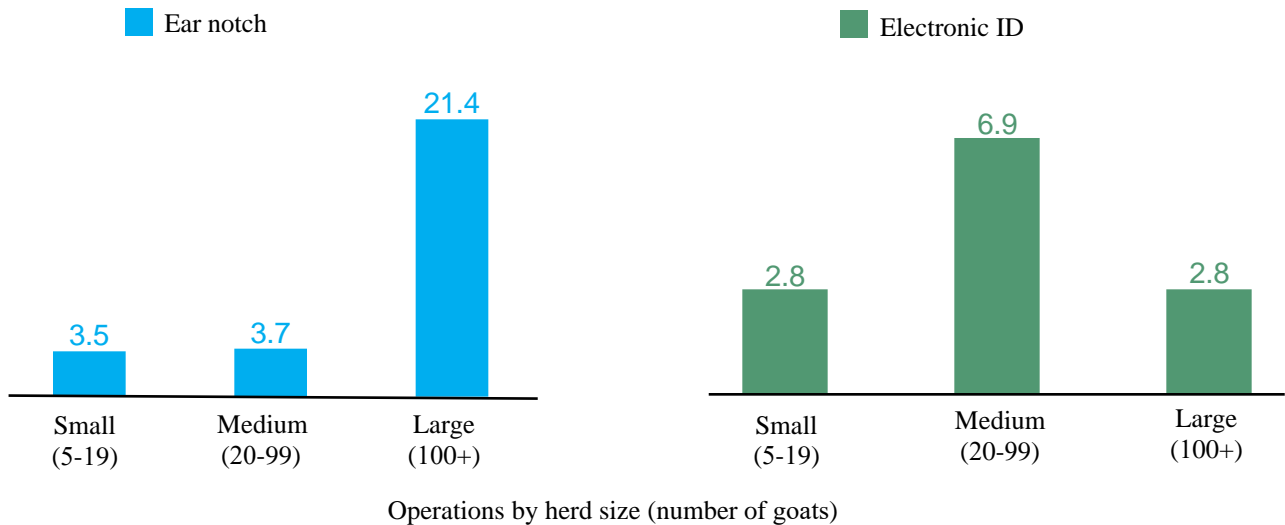
As shown in figure 4, a higher percentage of dairy operations (71.4 percent) had any goats with ID (individual and/or herd) than meat and other operations (57.4 and 56.8 percent, respectively).

Figure 4. Percent of operations that had any goats with ID (individual and/or herd), by primary production of the operation



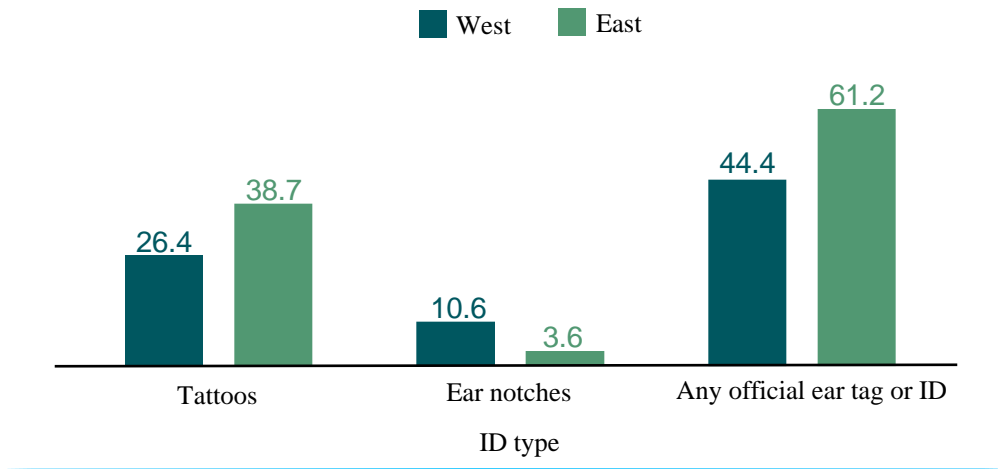
For operations that had any goats with any form of ID (individual and/or herd), a higher percentage of large operations (21.4 percent) used ear notches than small and medium operations (3.5 percent and 3.7 percent). A higher percentage of medium operations used electronic ID (6.9 percent) than large operations (2.8 percent) and small operations (2.8 percent), as shown in figures 5 and 6.

Figure 5 and Figure 6. Percent of operations that had any goats with any form of ID (individual and/or herd) that used ear notch and/or electronic ID, by herd size



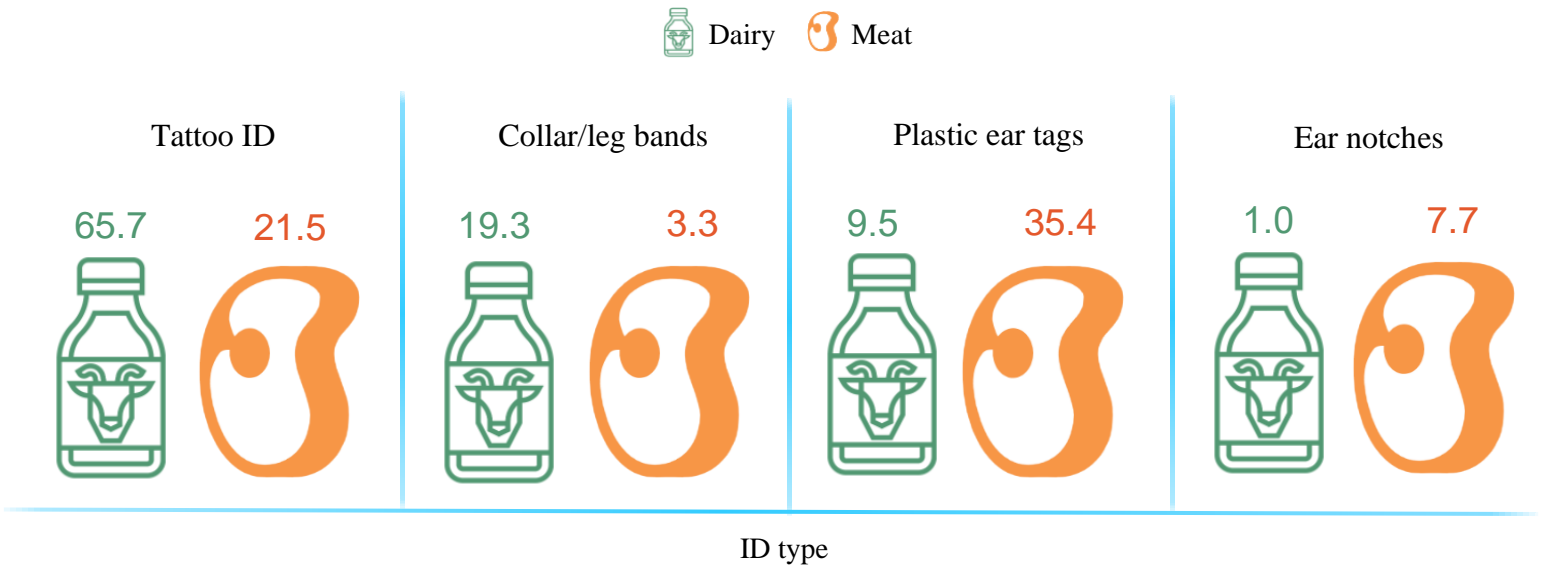
A higher percentage of operations in the East region (38.7 percent) used tattoos as ID than operations in the West region (26.4 percent). A higher percentage of operations in the West region (10.6 percent) used ear notches for ID than operations in the East region (3.6 percent). A higher percentage of operations in the East region (61.2 percent) used any official ear tag or ID than operations in the West region (44.4 percent), as shown in figure 7.

Figure 7. Percent of operations that had any goats with any form of ID (individual and/or herd) that used tattoos, ear notches and/or any official ear tag or ID, by region



For operations that had goats with any form of ID (individual and/or herd), a higher percentage of dairy operations (65.7 percent) had any goats with tattoos than meat or other operations (21.5 and 37.2 percent, respectively). A higher percentage of dairy operations (19.3 percent) used collar/leg bands than meat operations (3.3 percent). A higher percentage of meat operations used other plastic ear tags and ear notches as ID (35.4 percent and 7.7 percent, respectively) than dairy operations (9.5 and 1.0 percent, respectively).

Figure 8. Percent of ID type usage by primary production of operation



WHAT OTHER ID MANAGEMENT PRACTICES ARE USED?

As mentioned previously, the USDA’s National Scrapie Eradication Program assigns each operation a unique herd ID, which allows animals to be traced back to their operation of origin if they are determined to be scrapie positive or exposed. Some States require that all goats have a scrapie tag or ID when sold and all breeding goats 18 months of age or older are required to have a scrapie tag or ID when entering non-slaughter channels. For operations that had any goats with any form of ID, 57.8 percent had been assigned a unique herd ID through the scrapie program. A higher percentage of large operations (70.4 percent) had been assigned a unique herd ID than small operations (49.8 percent).

For operations that culled any goats, 59.0 percent reported that at least one culled goat had a herd ID when leaving the operation (figure 9). Overall, 70.6 percent of culled goats had any herd ID when they left the operation. A higher percentage of culled goats on large operations (80.6 percent) had any herd ID when they left the operation than culled goats on small operations (50.9 percent). There was no difference by region in the percentage of culled goats that had any herd ID when they left the operation.

Figure 9. Percent culled goats that had herd ID when leaving an operation



CONCLUSION

Roughly 60 percent of the goat operations in the U.S. use any identification methods, whether that be individual or herd ID. The percentage of operations that had any goats with any ID increased as herd size increased, with large operations having the greatest percentage (80 percent) of any goats with some form of ID. For operations that had any goats with any form of ID, over 50 percent had been assigned a unique herd ID through the scrapie program. With that, a higher percentage of large operations had been assigned a unique herd ID than small operations. Unique herd IDs allow animals to be traced back to their operation of origin if they are determined to be scrapie positive or exposed. Identification methods are critical for overall goat health, management practices, and disease tracking and prevention.

REFERENCES

1. USDA. 2020. Goat 2019, “Part I: Reference of Goat Management Practices in the United States, 2019.” USDA–APHIS–VS–CEAH–NAHMS. Fort Collins, CO.
2. USDA. 2020. “Animal Disease Traceability.” https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/SA_Traceability.
3. USDA. 2021. “NIAA Sheep and Goat ID Requirements.” https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/sa_animal_disease_information/sheep-goat/educational-materials.

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